

ABSTRACT

A high turbulence mill used for producing supermicro powder and nanomaterials includes: a driving device provided on a base; a hollow grinding casing having a toothed ring-shaped guide stator fixed to an inner circumference thereof; a bi-negative pressure turbine rotatably mounted within the grinding casing; a hopper for delivering materials into the grinding casing via a material feeding pipe; a material discharging pipe communicated with the grinding casing for discharging pulverized products; and a control device for electrically controlling the high turbulence mill. When the specifically designed bi-negative pressure turbine spins at a high speed within the grinding casing under the driving operation of the motor, strong vortexes and high turbulence will be formed in the grinding casing, and thus a gas-solid two-phase flow is formed. Under the high turbulence, the materials are subjected to violent self-grinding effect, strong impact and strong shear force, and then an accelerated and effective pulverization of the materials is obtained.